

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): ~~Axial~~ A compressor selected from the group consisting of an axial piston compressor, especially a and an axial piston compressor for the air-conditioning system of a motor vehicle, said compressor having a housing and, for drawing operative to draw in and compressing a coolant, a compressor unit arranged in the housing and driven by means of a drive shaft-(104), the compressor unit comprising pistons-(118), which operative to move axially back and forth in a cylinder block, and a tilt plate, -(swash plate or wobble plate; or tilt ring (107) which drives the operative to drive said pistons and rotates to rotate together with the said drive shaft-(104), wherein:

~~characterised in that~~

the geometry and dimensioning of all parts moved in translation, such as axial pistons-(118), piston rods or sliding blocks (121, 122) or the like, on the one hand, and all parts moved in rotation, such as the tilt plate-(107), members for conjoint movement or the like, on the other hand, are such that, for angles selected from the group consisting of any desired tilt angles (α) of the tilt plate (107), especially and between a predetermined minimum tilt angle (α_{\min}) and a predetermined maximum tilt angle (α_{\max}), the moment $M_{k,ges}$ -due to integers selected from the group consisting of the masses moved in translation, especially that that masses of the pistons-(118), where appropriate including sliding blocks-(121, 122), piston rods or the like, is approximately equal to the moment M_{sw} -due to the moment of deviation, that is to say the moment due to the mass inertia of the tilt plate-(107).

Claim 2 (currently amended): ~~Compressor~~ A compressor according to claim 1, characterised in that wherein the balancing of moments $M_{k,ges} = M_{sw}$ -is set for a predetermined tilt an angle (α), especially for selected from the following group

consisting of a predetermined tilt angle, a tilt-angle: angle $\alpha = (\alpha_{\max} - \alpha_{\min})/2$, or $\alpha = \alpha_{\max}$,
~~or even~~ and a predetermined virtual tilt angle $\alpha > \alpha_{\max}$.

Claim 3 (currently amended): ~~Compressor~~ A compressor according to claim 1 ~~or 2, characterised in that~~ wherein the centre of gravity of the tilt plate (107) is located on the tilt axis (x) thereof.

Claim 4 (currently amended): ~~Compressor~~ A compressor according to claim 1 ~~or 2, characterised in that~~, wherein given division of the space surrounding the drive shaft and the tilt plate into four quadrants (Q1, Q2, Q3, Q4), the centre of gravity of the tilt plate (107) is offset ~~either~~ into a quadrant selected from the group consisting of a first, front quadrant (Q1) delimited by the drive shaft (104) and the front face of the tilt plate (107) including the piston support and facing the pistons, ~~or into~~ a second, front quadrant (Q2) located on the side opposite the first quadrant (Q1) relative to the drive shaft (104), ~~or into~~ a third, rear quadrant (Q3) arranged relative to the tilt plate (107) at the height of the second quadrant (Q2) behind the tilt plate (107), that is to say on that side of the tilt plate (107) which is remote from the pistons, ~~or into~~ and a fourth, rear quadrant (Q4) arranged relative to the tilt plate (107) at the height of the first quadrant (Q1) behind the tilt plate (107), that is to say on that side of the tilt plate (107) which is remote from the pistons.

Claim 5 (currently amended): ~~Compressor~~ A compressor according to ~~one of claims claim 1—4, characterised in that it~~ said compressor is down-regulatable in the relatively high speed of rotation range and up-regulatable in the relatively low speed of rotation range (Figs. 15a, 16, 17, 18).

Claim 6 (currently amended): ~~Compressor~~ A compressor according to claim 4 ~~or 5, characterised in~~ wherein the arrangement is such that the location of the centre of

gravity moves, with a change in the tilt angle of the tilt plate (107), from an up-regulating quadrant (Q2, Q4) into a down-regulating quadrant (Q1, Q3) or vice-versa.

Claim 7 (currently amended): ~~Compressor A~~ compressor according to ~~one of claims claim 1, to 6, characterised in that~~ wherein an integer selected from the group consisting of the piston stroke, and/or the tilt angle of the tilt plate (107), and the piston stroke and the tilt angle of the tile plate is substantially constant in the case of changes in the speed of rotation.

Claim 8 (currently amended): ~~Compressor A~~ compressor according to ~~one of claims claim 1 to 7, characterised in that~~ wherein the speed-of-rotation-dependent characteristic curves of the drive mechanism chamber pressure difference (p), relative to the suction pressure, set against the tilt angle (α) of the tilt plate (107) either intersect have a relationship selected from the group consisting of intersecting at one point, or converge and converging at one point.

Claim 9 (currently amended): ~~Compressor A~~ compressor according to claim 8, ~~characterised in that~~ wherein the point of intersection of the characteristic curves separates the up-regulating from the down-regulating speed of rotation range.

Claim 10 (currently amended): ~~Compressor A~~ compressor according to ~~one of claims claim 1 to 9, characterised in that~~ wherein the characteristic curves (regulation curves) for different speeds of rotation run approximately parallel to one another.

Claim 11 (currently amended): ~~Compressor A~~ compressor according to ~~one of claims claim 1 to 10, characterised in that~~ wherein the tilt angle (α) of the tilt plate (for example, or tilt ring 107) changes by about 2° to 4° in the event of a change in the speed of rotation from minimum to maximum, especially under the condition of an approximately constant pressure in the drive mechanism chamber.

Claim 12 (currently amended): ~~Compressor~~ A compressor according to ~~one of claims claim 1 to 11, characterised in that wherein~~ the spring constant of ~~the a~~ restoring spring (117) acting on the tilt plate (~~for example, the or~~ tilt ring 107) is selected from the group consisting of between about 40 and 90 N/mm, ~~especially and of between~~ about 40 ~~to and~~ 70 N/mm, the selected spring constant having been optimised for a group of regulation characteristic curves.

Claim 13 (currently amended): ~~Compressor~~ A compressor according to ~~one of claims claim 1 to 12, characterised in that wherein~~ the moment of deviation, taking into account a so-called Steiner component, includes both an up-regulating and a down-regulating term, those terms predominating, in each case, after a threshold tilt angle (α_G) of the tilt plate (107) has been exceeded, especially, in the case of

$\alpha < \alpha_G$ in up-regulating manner, and

$\alpha > \alpha_G$ in down-regulating manner.